BLM Asset Management Overview
SAFETY OF DAMS

December 4th, 2012

Asset Management Overview

- Asset Management Terminology and Budgetary Needs
- Annual Maintenance Methodology
- Current Replacement Values
- Condition Assessments
- Brief Program History

Terminology

- DM – Deferred Maintenance
- CRV – Current Replacement Value
- FCI – Facility Condition Index =DM/CRV
- FAMS- Facility Asset Management System
- Asset – Real Property- facilities, buildings, systems, etc.
- ABP – Asset Business Plan
- AM – Annual Maintenance
- Hazard Class Dams –

  1. Dams with 50ac-ft or more impoundment or a hydraulic height of 25ft or more

  2. Dams with 15ac-ft or more impoundment that have a hydraulic height of greater than 6ft and are classified as either high or significant hazard.

- NID – National Inventory of Dams

HISTORY (Asset Management - all Facilities)

- Executive Order 13327- February 4th, 2004
- Approximately 10 Teams were developed
- BLM Personnel from many backgrounds and levels
- All working to create a holistic integrated asset management program

BLM Assets

- 790 Administrative Sites*
- 2,963 Recreation Sites*
- 5,547 Buildings*
- 45,826 Miles of Road**
- 29,200 Miles of Primitive Road**
- 15,000 Miles of Trails**
- 715 Major Culverts*
- 854 Bridges*
- 672 Hazard Class Dams***

* From FAMS Report

** From BLM FLTP Strategic Investment Proposal

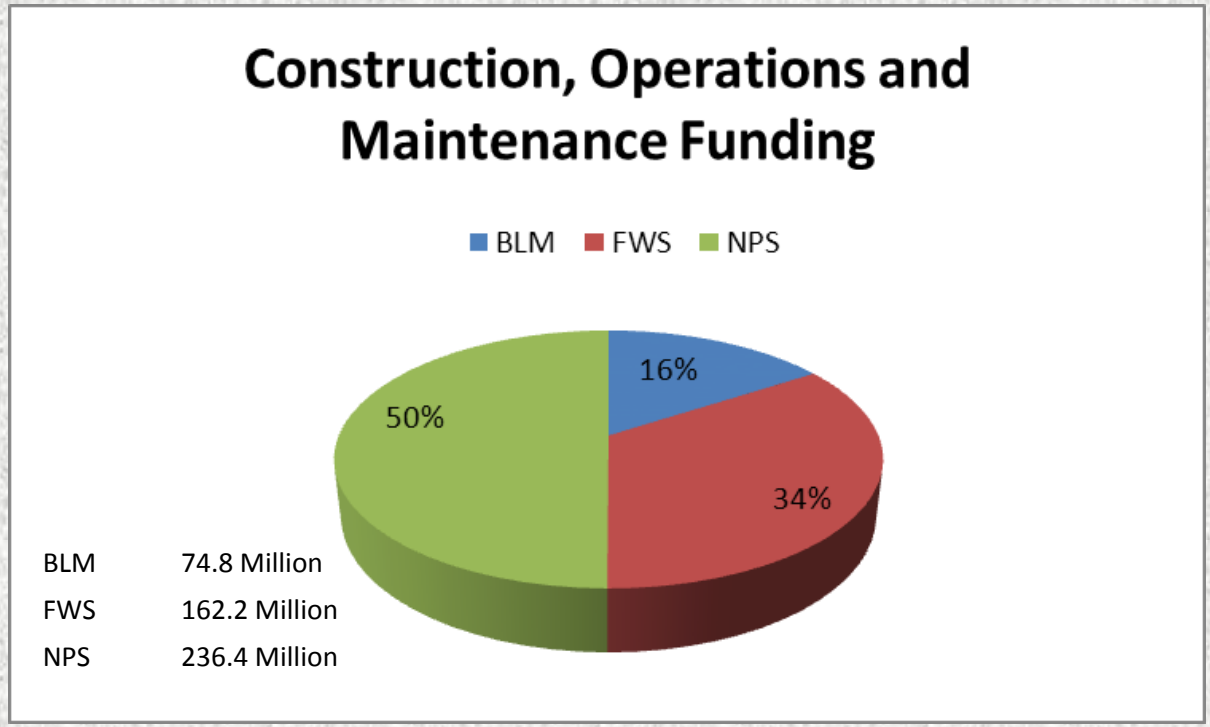
***From Paul Peterson

Annual and Operational Maintenance Funding Gap

- BLM Total Funding =$1.9 Billion
- BLM FY12 Total O&M Budget = $41,160 Million
- BLM Total Maintenance Needs = $91 Million*

*Obtained from FAMS

Government Budget Battles



BLM	74.8 Million
FWS	162.2 Million
NPS	236.4 Million

Approach – Getting to the “Root” of the Problem

- Issues identified the symptoms but not the “Root Problem”
- Root Problem:
  - “The lack of a well-defined and effective annual maintenance management process that addresses the entire asset life cycle”.

Change the way we do business

- Tell a better story!
- Credit for work accomplished
- What work is not being accomplished?
- Acquiring &constructing new assets
- Government-wide competition for budget

QUESTIONS

Annual Maintenance Methodology

The "Devil" Really is in the Details!

Background – Annual Maintenance

- Annual Maintenance within BLM includes:
  - Preventive Maintenance
  - Reactive Emergency Maintenance
  - Component Renewal
- AM Planning- Designed for consistent Life Cycle Management of all Bureau Assets
  - 790 Administrative Sites*
  - 2,963 Recreation Sites*
  - 5,547 Buildings*
  - 45,826 Miles of Road**
  - 29,200 Miles of Primitive Road**
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Maintenance Cost Factors

- Annual Expenditure Required to Maintain Asset
- The result is a unitized maintenance for the “Average” BLM asset
- Defined Standards of Care
  - Asset Management Performance Standards
  - Clear Expectations
  - Communication Mechanism Between Management and Field Personnel
  - Does not include any DM Funding Costs
- Consistent Budget Development Process
- Ability to Project Future Maintenance Needs
- Capability to Forecast New Deferred Maintenance due to Less than full funding

On the Ground Costs

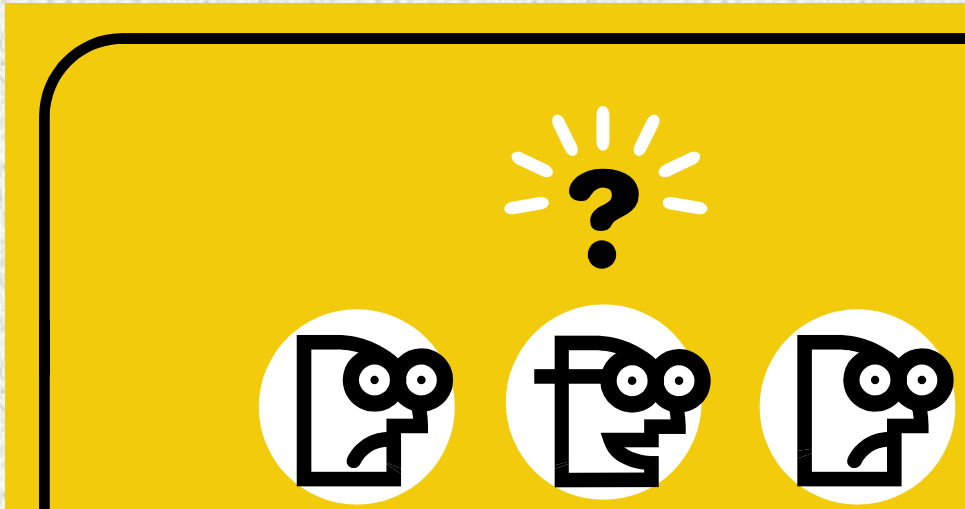
- The Maintenance Cost Factors (MCF) are applied to the inventory to develop annual Maintenance Need.
- Dam Assets:
  - Embankment (Cubic yard)
    - Outlet Works (Principle Spillway)
    - Spillway (Emergency Spillway)

MCF's for Dams

Cost code	Asset type	Asset definition	MCF (per yd^3)
DIE	DAM-INTERMEDIATE EARTHEN 40'-100' HYD HT OR 1K-50KACREFT CAP	ARTIFICIAL BARRIER, INCLUDING APPURTENANT WORKS, USED TO IMPOUND/DIVERT WATER. PRIMARY MATERIALS ARE EARTH/SOILS. ARTIFICIAL BARRIERS >= 6FT HYDRAULIC HEIGHT OR <=15 ACRE-FEET ARE CONSIDERED TO BE DAMS.	$0.49
DMC	DAM-MINOR CONCRETE 6' - 25' HYDR HT OR 15-50 ACREFT CAPACITY	ARTIFICIAL BARRIER, INCLUDING APPURTENANT WORKS, USED TO IMPOUND/DIVERT WATER. PRIMARY MATERIALS ARE CONCRETE. ARTIFICIAL BARRIERS >= 6FT HYDRAULIC HEIGHT OR <=15 ACRE-FEET ARE CONSIDERED TO BE DAMS.	$22.59
DME	DAM - MINOR EARTHEN 6'-25' HYDR HT OR 15-50 ACREFT CAPACITY	ARTIFICIAL BARRIER, INCLUDING APPURTENANT WORKS, USED TO IMPOUND/DIVERT WATER. PRIMARY MATERIALS ARE EARTH/SOILS. ARTIFICIAL BARRIERS >= 6FT HYDRAULIC HEIGHT OR <=15 ACRE-FEET ARE CONSIDERED TO BE DAMS.	$1.03
DSM	DAM - SMALL EARTHEN 25'-40' HYDR HT OR 50-1K ACREFT CAPACITY	ARTIFICIAL BARRIER, INCLUDING APPURTENANT WORKS, USED TO IMPOUND/DIVERT WATER. PRIMARY MATERIALS ARE EARTH/SOILS. ARTIFICIAL BARRIERS >= 6FT HYDRAULIC HEIGHT OR <=15 ACRE-FEET ARE CONSIDERED TO BE DAMS.	$0.62

On the Ground Cost

- The inventory can be rolled up to any level:
  - Site
  - Field Office
  - State
  - National



It's **QUESTION TIME!!**

Current Replacement Value

The forgotten half of the FCI

Terminology

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- FCI – Facility Condition Index =DM/CRV
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- NID – National Inventory of Dams

Function of CRVs

- Definition: Estimated Cost to replace an asset's functionality if you had to purchase it today.
- Parametric Estimate

CRV may not represent "replacement in kind".

- Determined using various industry references such as Whitestone, R. S. Means as well as BLM data and contractor experience

Function of CRVs Cont'd

- Level C Estimates -30% to +50%
- 1 value per asset type and material
- Ties into Comprehensive Asset Catalog Maintenance Cost Factors
- CRV is based on functional replacement only. It does not include intrinsic value
- CRV is for the purpose of calculating the FCI only
- Estimated loaded CRV for BLM is $17.6 Billion*

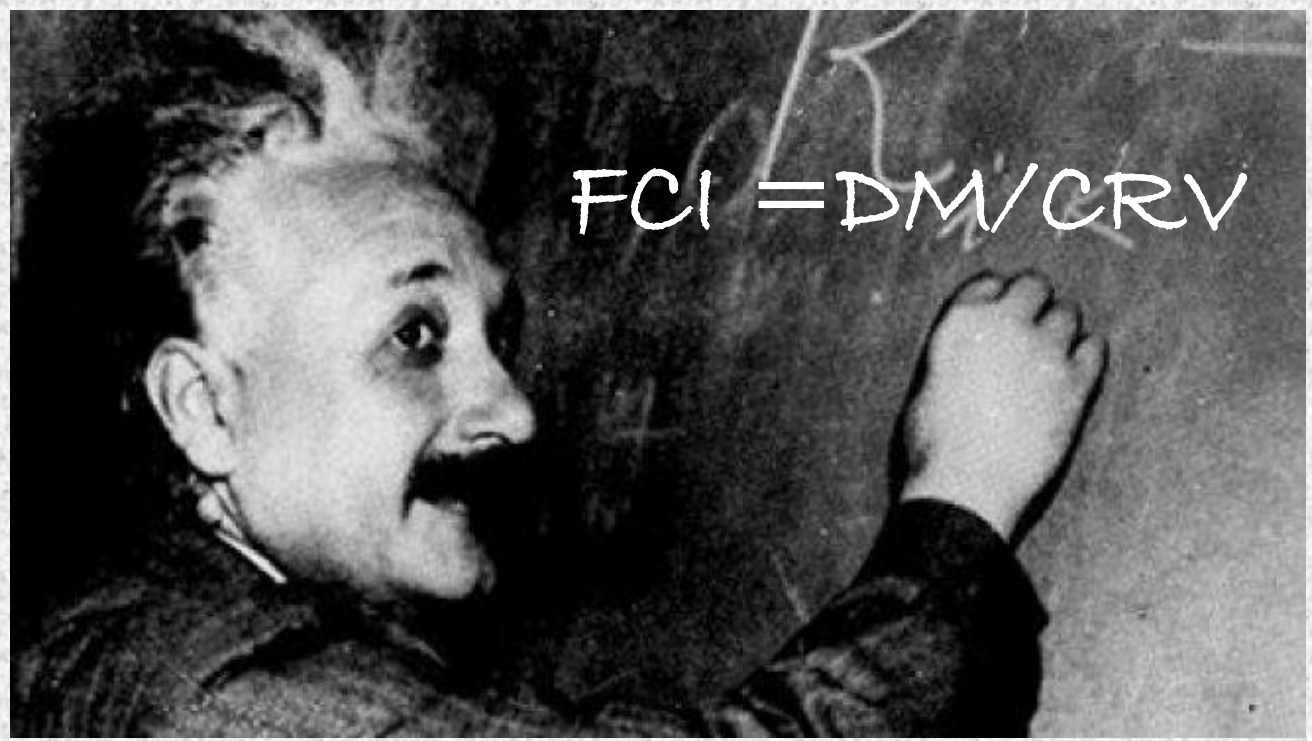
*Obtained from FAMS report 11/30/2012

CRV's for Dams

Cost code	Asset type	Assetdefinition	CRV (per yd^3)
DIE	DAM-INTERMEDIATE EARTHEN 40'-100' HYD HT OR 1K-50KACREFT CAP	ARTIFICIAL BARRIER, INCLUDING APPURTENANT WORKS, USED TO IMPOUND/DIVERT WATER. PRIMARY MATERIALS ARE EARTH/SOILS. ARTIFICIAL BARRIERS >= 6FT HYDRAULIC HEIGHT OR <=15 ACRE-FEET ARE CONSIDERED TO BE DAMS.	$16.06
DMC	DAM-MINOR CONCRETE 6' - 25' HYDR HT OR 15-50 ACREFT CAPACITY	ARTIFICIAL BARRIER, INCLUDING APPURTENANT WORKS, USED TO IMPOUND/DIVERT WATER. PRIMARY MATERIALS ARE CONCRETE. ARTIFICIAL BARRIERS >= 6FT HYDRAULIC HEIGHT OR <=15 ACRE-FEET ARE CONSIDERED TO BE DAMS.	$725.99
DME	DAM - MINOR EARTHEN 6'-25' HYDR HT OR 15-50 ACREFT CAPACITY	ARTIFICIAL BARRIER, INCLUDING APPURTENANT WORKS, USED TO IMPOUND/DIVERT WATER. PRIMARY MATERIALS ARE EARTH/SOILS. ARTIFICIAL BARRIERS >= 6FT HYDRAULIC HEIGHT OR <=15 ACRE-FEET ARE CONSIDERED TO BE DAMS.	$33.68
DSM	DAM - SMALL EARTHEN 25'-40' HYDR HT OR 50-1K ACREFT CAPACITY	ARTIFICIAL BARRIER, INCLUDING APPURTENANT WORKS, USED TO IMPOUND/DIVERT WATER. PRIMARY MATERIALS ARE EARTH/SOILS. ARTIFICIAL BARRIERS >= 6FT HYDRAULIC HEIGHT OR <=15 ACRE-FEET ARE CONSIDERED TO BE DAMS.	$20.24

– (Cost Codes – CRV & MCF 2012 update Costs by John Treacy (NOC)

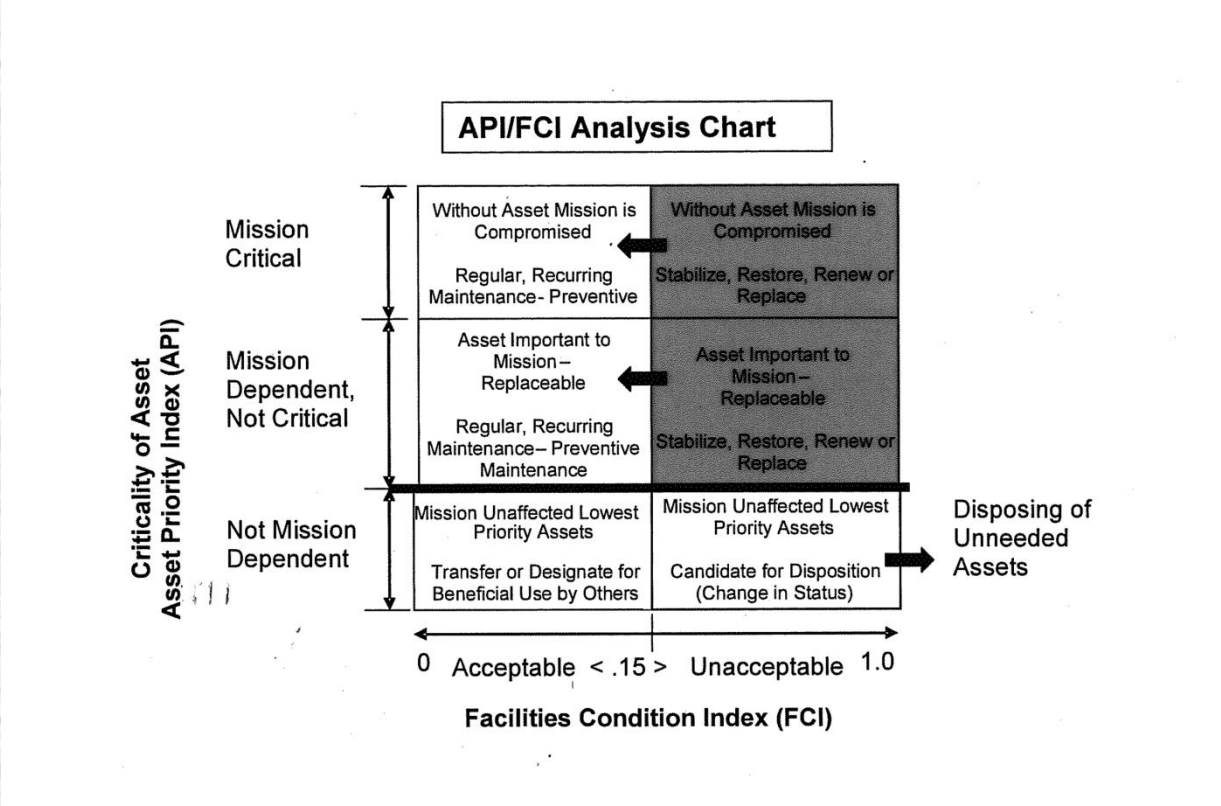
CRV will only be used in the calculation of FCI


FCI =DM/CRV

Facility Condition Index (FCI)

- FCI = Deferred maintenance/ Current Replacement Value
  - ➢ You will be capturing the embankment volume and DM needs as part of the condition assessment.
- FCI (Dam) =DM/CRV/cu. yd. x Volume of the embankment (cu. Yd.)

Importance of the FCI



Executive Order 13327 – Federal Real Property Management

Questions

Comprehensive Condition Assessment

Maintaining the Bureau's Investment

What is a Condition Assessment (CA)?

- A CA gives us an **inventory** of our assets at BLM sites
- It also identifies **deferred maintenance needs** and **costs** if found at these sites
- The **inventory** is also used to populate our FAMS database which directly effects our L1660 Annual and Operation Maintenance funding.
- Provides a snapshot of the **condition** of a site at a point in time

BLM Condition Assessment (CA) Efforts

- Rec and Admin Site Baseline CA (Complete (10/04)
- Re and Admin CA Follow-on
- Roads baseline CA (Complete 12/12)
- Bridges Condition Assessment
- Trails CA
- Dams CA

BLM Asset Inventory Verification

Fams6_ca_verification_form.pdf - Adobe Reader

File Edit View Window Help

1 / 3 100%

Cost Code: DME **Description:** DAM - MINOR EARTHEN 6'-25' HYDR HT OR 15-50 ACR

Last Inspected: 02/13/2011

	Lat	Long
Begins	34.466	-106.933
Ends		

Asset Status: OPERATING

Attributes:

Asset Attribute	Value	New Value	Changed By	Required?
DAM FLOOD STORAGE CAP			WWILLIAM	REQUIRED
ALIQUOT PART	SW 1/4		AMOSS	REQUIRED
EMERGENCY ACTION PLAN REQUIRED	NO		WWILLIAM	REQUIRED
DRAINAGE AREA			WWILLIAM	REQUIRED
DISTANCE TO NEAREST HABITATION	8.4		AMOSS	REQUIRED
NORMAL STORAGE			WWILLIAM	REQUIRED
DAM PURPOSE	9		AMOSS	REQUIRED
RESEVOIR SURFACE AREA	18.4		AMOSS	REQUIRED
GEOGRAPHIC STATE	NEW MEXICO		WWILLIAM	REQUIRED
IS DAM STATE REGULATED?			WWILLIAM	REQUIRED
DAM OWNER	1		WWILLIAM	REQUIRED

V = Verified U = Unverified N = Needs Update C = Complete

NO WARRANTY IS MADE BY BLM FOR USE OF THE DATA FOR PURPOSES NOT INTENDED BY BLM

FAMS Reports

https://web.lrpo.blm.doi.net:9271/rptapp/menu.cfm?appCd=8

Dams Condition Assessment Policy

- WO-IM-2006-014, dated October 11, 2005
  - Low Hazard Dams CA frequency change from 3 years to 5 years
  - High and Significant Hazard Dams – remain annually

Why are we doing condition Assessments?

- Safety of Dams Requirements (DOI and BLM Policy)
- Protect Investment of time and money
- Accurate inventory
- Support Annual Maintenance Request
- Accurate/Consistent Deferred Maintenance Costs
- Clean Audit Opinion
- EO 13327

Dam Inventory

State	Inventory
Alaska	0
Arizona	94
California	8
Colorado	25
Idaho	14
Montana	215
New Mexico	67
Nevada	29
Oregon	52
Utah	14
Wyoming	136

Dam Condition Assessments

- Protection of Investment
  - Maintain Inventory
  - Ensure Consistency
  - Develop QA/QC program
- Reasonable, Consistent and Auditable

Trust but Verify – Ronald Reagan

Dam Maintenance/ Work Load

- Will we be receiving additional maintenance funding for dams?
- Will this data help support the justification for additional funding?
- Will completing these additional protocols require additional staffing?

Questions

Dam Protocols

How did We Get to Where We Are?

A Brief History

Dam Protocols History

- 2005 – The Dam Condition Assessment Program was identified for development
- During FY 2005, Dam Condition Assessment Team met to update our protocols (blue book- 9177 Handbook),our checklist and our manuals.

Dam Condition Assessment Team

- Team Members:
  - Steve Janzen- Idaho Falls, ID District
  - Dana Cork – Prineville, OR District
  - Michael Montgomery, Lewistown, MT District
  - Bruce Bierle, NOC Coordinator
  - Greg Bergum – EAT Liason, Montana State Office

Rather than reinvent the wheel, the team decided to revise the existing protocols and checklist to conform to BLM's Facility Asset Management System (FAMS) and the National Inventory of Dams (NID).

Dam Protocols Objective

- Develop a universal condition assessment program for dams for all States to use.
- Ensure data is uniform and consistent
- Provide Consistent Costing for Deferred Maintenance project.

Dam Protocols Pilot Condition Assessment

- During the week of October 3rd , 2005 a pilot CA was conducted in Montana.
  - Day 1 –Walk through of the proposed program
  - Day 2- Assessment of dam site Northeast of Billings (Anita Dam)
  - Day 3 – Dedicated to a “lessons learned” discussion, modifications of the training session, the protocols and the checklist

Training Sessions

- 2006 Depression Dam, approximately 40 miles southwest of Billings Montana
- 2008 – Alameda Dam, within the city limits of Las Cruces, NM

Condition Assessment Intervals for Dams

- High Hazard Dam: Every Year
- Significant Hazard Dam: Every Year
- Low Hazard Dam: Every 5 years

Hazard Potential Classification

Hazard Potential Class		Loss of Life	Economic, Lifeline,& Environmental Losses
Low	(L)	None Expected	Low: Limited to Owner
Significant	(S)	None Expected	Yes
High	(H)	Probable: One or More	Yes: Not needed for “High”

Questions